



DEPARTMENT OF HOMELAND SECURITY

Coast Guard

[Docket No. USCG-2022-0348]

Cooperative Research and Development Agreement – Artificial Intelligence (AI) detection with Coast Guard optical sensors

AGENCY: Coast Guard, DHS.

ACTION: Notice of intent; request for comments.

SUMMARY: The Coast Guard announces its intent to enter into a cooperative research and development agreement (CRADA) with companies to evaluate autonomous detection and tracking systems to determine its potential use in Search and Rescue planning. The Coast Guard will provide video output from various sensors to detect and characterize targets for search along with collaboratively developing methods to evaluate the effectiveness of the autonomous detection and tracking systems to allow for the integration with accepted search planning systems and methodologies. From a recent demonstration, the Coast Guard is currently considering partnering with Zelim to investigate their artificial intelligence-based casualty detection system, SARBox, and solicits public comment on the possible participation of other parties in the proposed CRADA, and the nature of that participation. The Coast Guard also invites other potential non-Federal participants, who have the interest and capability to bring similar contributions to this type of research, to consider submitting proposals for consideration in similar CRADAs.

DATES: Comments must reach the Coast Guard on or before [INSERT 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER.]. Synopses of proposals regarding future CRADAs must also reach the Coast Guard on or before [INSERT 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER.].

ADDRESSES: Submit comments online at <http://www.regulations.gov> following website instructions. Submit synopses of proposals regarding future CRADAs to Ms. Shelly Wyman at her address listed in the FOR FURTHER INFORMATION CONTACT section.

FOR FURTHER INFORMATION CONTACT: If you have questions on this notice or wish to submit proposals for future CRADAs, contact Ms. Shelly Wyman, Project Official, Aviation Branch, U.S. Coast Guard Research and Development Center, 1 Chelsea Street, New London, CT 06320, telephone 860-271-2600, email RDC-info@uscg.mil.

SUPPLEMENTARY INFORMATION:

Public Participation and Request for Comments

We request public comments on this notice. Although we do not plan to publish responses to comments in the *Federal Register*, we will respond directly to commenters and may modify our proposal in light of comments.

Comments should be marked with docket number USCG-2022-0348 and should provide a reason for each suggestion or recommendation. You should provide personal contact information so that we can contact you if we have questions regarding your comments; but please note that all comments will be posted to the online docket without change and that any personal information you include can be searchable online. For more about privacy and the docket, visit <http://www.regulations.gov/privacyNotice>. We do accept anonymous comments.

We encourage you to submit comments through the Federal Portal at <http://www.regulations.gov>. If your material cannot be submitted using <http://www.regulations.gov>, contact the Coast Guard (see FOR FURTHER INFORMATION CONTACT). Documents mentioned in this notice and all public comments, will be in our online docket at <http://www.regulations.gov> and can be viewed by following that website's instructions. Additionally, if you go to the online docket and sign up for email alerts, you will be notified when comments are posted.

Do not submit detailed proposals for future CRADAs to <http://www.regulations.gov>. Instead, submit them directly to the Coast Guard (see FOR FURTHER INFORMATION CONTACT).

Discussion

CRADAs are authorized under 15 U.S.C. 3710(a).¹ A CRADA promotes the transfer of technology to the private sector for commercial use, as well as specified research or development efforts that are consistent with the mission of the Federal parties to the CRADA. The Federal party or parties agree with one or more non-Federal parties to share research resources, but the Federal party does not contribute funding.

CRADAs are not procurement contracts. Care is taken to ensure that CRADAs are not used to circumvent the contracting process. CRADAs have a specific purpose and should not be confused with procurement contracts, grants, and other type of agreements.

Under the proposed CRADA, the Coast Guard's Research and Development Center (R&DC) will collaborate with one or more non-Federal participants. Together, the R&DC and the non-Federal participants will evaluate autonomous detection and tracking systems to determine their potential for search and rescue planning that may greatly increase mission performance on select USCG platforms and improve Maritime Domain Awareness(MDA) capability.

We anticipate that the Coast Guard's contributions under the proposed CRADA will include the following:

- (1) In conjunction with the non-Federal participant(s), develop the demonstration test plan to be executed under the CRADA;
- (2) Provide video output from various Coast Guard sensors to test and integrate with non-Federal participant(s) autonomous detection systems;

¹ The statute confers this authority on the head of each Federal agency. The Secretary of DHS's authority is delegated to the Coast Guard and other DHS organizational elements by DHS Delegation No. 0160.1, para. II.B.34.

(3) Provide access to and coordinate the use of necessary Coast Guard facilities, surface assets, and R&D Center equipment to facilitate assessments. Responsible for ensuring that all necessary approvals have been obtained before the execution of the test plan;

(4) Provide discussions on sound search planning theory to help identify ways of collecting quantitative measures to better define the effectiveness of AI technology compared to current SAR efficiency calculations;

(5) Collaboratively collect and analyze demonstration test plan data; and

(6) Collaboratively develop a summary documenting the methodologies, findings, conclusions, and recommendations of this CRADA work.

We anticipate that the non-Federal participants' contributions under the proposed CRADA will include the following:

(1) Provide the autonomous detection and tracking system and all other equipment to conduct the demonstration described in the demonstration test plan;

(2) Provide engineering support, including all required operators and technicians to conduct the demonstration;

(3) Provide shipment and delivery of all autonomous detection and tracking system equipment required for the demonstration; and

(4) Provide travel and associated personnel and other expenses as required.

(5) Assist with compiling the results of the demonstration(s) with R&D Center that documents the methodologies, findings, conclusions, and recommendations under this CRADA.

The Coast Guard reserves the right to select for CRADA participants all, some, or no proposals submitted for this CRADA. The Coast Guard will provide no funding for reimbursement of proposal development costs. Proposals and any other material submitted in response to this notice will not be returned. Proposals submitted are expected to be unclassified and have no more than five single-sided pages (excluding cover page, DD 1494, JF-12, etc.).

The Coast Guard will select proposals at its sole discretion on the basis of:

(1) How well they communicate an understanding of, and ability to meet, the proposed CRADA's goal; and

(2) How well they address the following criteria:

(a) Technical capability to support the non-Federal party contributions described; and

(b) Resources available for supporting the non-Federal party contributions described.

Currently, the Coast Guard is considering Zelim for participation in this CRADA, because they have a solution in place for providing an AI casualty detection system that can be used on multiple platforms using Coast Guard optical sensors. However, we do not wish to exclude other viable participants from this or future similar CRADAs.

This is a technology demonstration effort to evaluate and assess how AI detection can be utilized with Coast guard optical sensors. The goal of this CRADA is to identify and determine methods of checking effectiveness of AI systems compared to current accepted Search and Rescue standards and determine their potential use in a maritime environment by the first responder and the DHS operational components. Special consideration will be given to small business firms/consortia, and preference will be given to business units located in the U.S.

This notice is issued under the authority of 5 U.S.C. 552(a) and 15 U.S.C. 3710(a).

Dated: October 27, 2022.

Captain Daniel P. Keane, USCG,
Commanding Officer,
U.S. Coast Guard Research and Development Center.

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